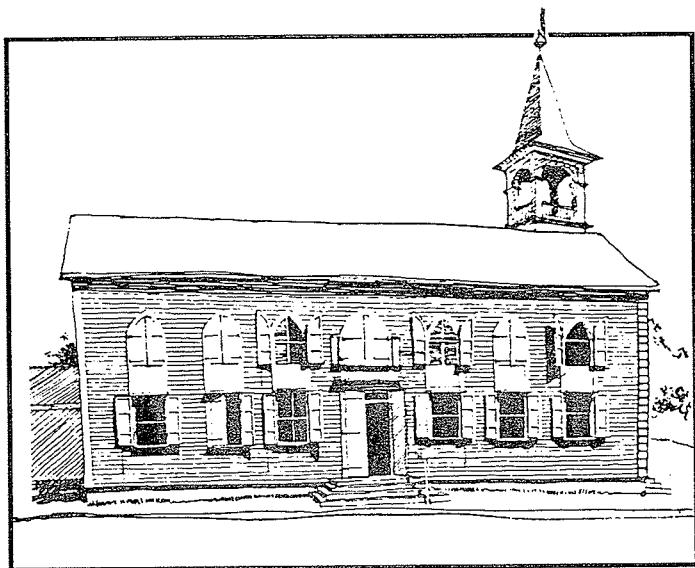


# PRESERVATION GUIDELINE 6

## Division of Archaeology and Historic Preservation

### Virgin Islands Department of Planning and Natural Resources

## REPAIRS TO WOOD BUILDINGS



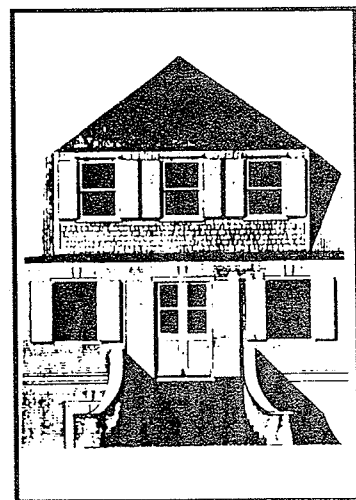
Wood has long been a popular building material in the Virgin Islands, used for both institutional and other buildings. Friedensfeld Midlands Moravian Church, one of the largest all wood buildings in the West Indies.

### Termite Inspection

Once sources of water penetration have been discovered and an effort made -- even if temporarily -- to repair leaky roofs and gutters, an examination for termites can be made. Termites get into the walls both through the ground and by air. The former or subterranean termites are by far the most damaging to wood buildings. To look for signs of termite infestation, walls may be examined simply by knocking or by probing with an icepick, knife, or screwdriver. Foundations should also be examined for termite trails, although



Inspection for termites.



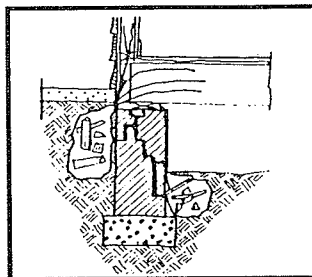
Wood combined with masonry. Shingle surfaces such as this have been common since the 18th century.

Many of the buildings in the Virgin Islands are built of wood and require special care. The main concerns are that original materials not be replaced, unless it is fully necessary and, that if wood walls or wooden parts of buildings must be replaced, the replacement material should resemble the original as closely as possible.

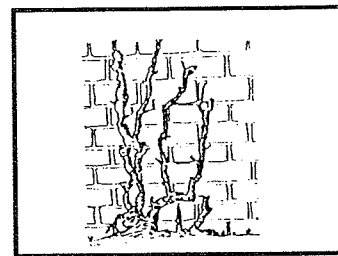
### GENERAL TREATMENTS

#### Inspection for Leaks

An initial inspection should be made for signs of leaks and, usually accompanying this, infestation by termites or other insects. As with stone or brick buildings, the main threat to wood buildings is water penetration. If a roof is sound and gutters work properly, a seemingly fragile wood building can, in fact, last indefinitely.



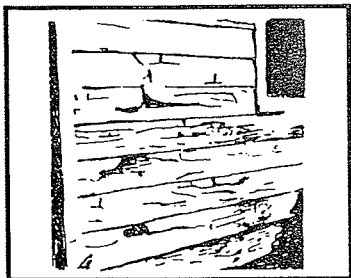
Some typical sources of termites: debris in the soil either inside or outside the foundation walls; in contact with the soil; hidden termite trails.



Subterranean termite trails - frequently a sign of termite presence.

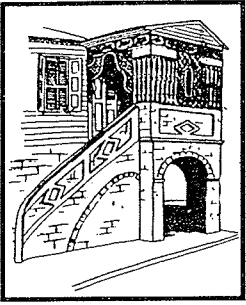
these are often hidden from view within the wall cavities. Rubble masonry buildings and buildings with rubble masonry foundations -- the case with most Virgin Islands historic wood buildings -- have this problem especially and roofs and walls can be infested by termites invisible at the foundation level.

If termites are discovered, the ground around the building and the building itself should be treated by a professional exterminator. In isolated areas, wood preservatives (generally chromated copper or zinc naphthanate, both anti-fungicides as well) or other similar preservative treatments can be applied. Treatment, however, is less effective than tenting and -- especially -- professional ground treatment with pesticides.



Moisture - the main problem for wood.

## Avoid Covering Interiors

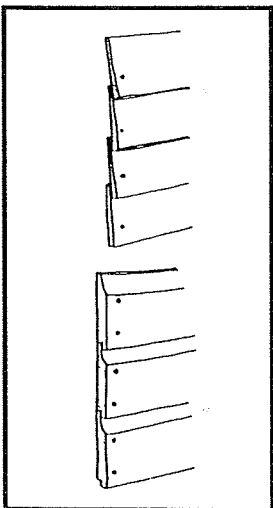


Sawn-work detailing - an enormously significant feature of many wood buildings. Efforts should be made to retain existing examples and repair where necessary. Illustration from Pamela Gosner's *Historic Architecture of the Virgin Islands*.

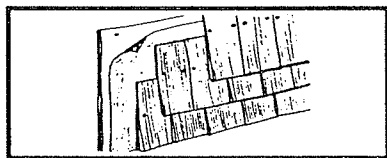
Traditional practice should be followed when undertaking any wood repairs. Exposed stud walls and rafters, so typical in most older West Indian buildings, were not simply a means of saving materials, but had a practical rationale as well. Exposed walls meant less vermin, an easy way to detect termites, and ensured proper ventilation both of walls and roofs. Whenever possible, this method of building should be retained. Installation of gypsum board or other wallboard is discouraged for the same reason, although modern fire codes may in many instances require some changes.

## Decorative Sawn-Work and Other Decoration

The Virgin Islands is particularly noted for its wealth of jig-saw or sawn-work, known variously as gingerbread or decorative "icing". There is also some turned work and other significant decoration. Whenever existing decorative work is in place, this should be retained and repaired. In some cases replacement of entire sections, of either bargeboards (also called "valences" when horizontal) or balusters, may be necessary. If this is done, great care should be taken to duplicate the original design as closely as possible. Always, good quality materials should be used to ensure long-lasting repairs.



Lapped weatherboard, and "German" or novelty siding.



Cedar shingles - a common siding material for wood buildings in the Virgin Islands.

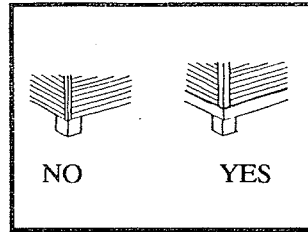
The addition of sawn-work or other decorative wood features, where none was present before, is generally discouraged, at least on major facades of the building. Some use of decorative work is possible in courtyards and on new buildings, although care must be taken to follow traditional practices closely. In

some instances, sawn work can be used on new porches (discussed in a separate "Guideline").

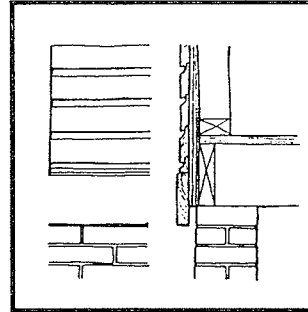
## Siding

There are basically four kinds of wood siding in the Virgin Islands:

(1) older weather-boarding with a "bead" or rounded portion at the bottom;



Match the detailing of original siding. Duplicate the corner board (quoins) and baseboard details.

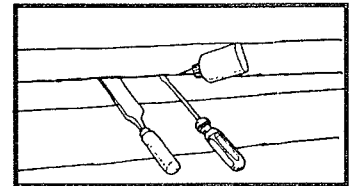


Lapped weatherboard. Ship-lapped novelty board. Note the drip molding or drip cap along the baseboard. Be sure to include proper detailing and flashing to better preserve your building.

(2) simple lapped weather-board;

(3) "novelty" board, also known as German siding; and

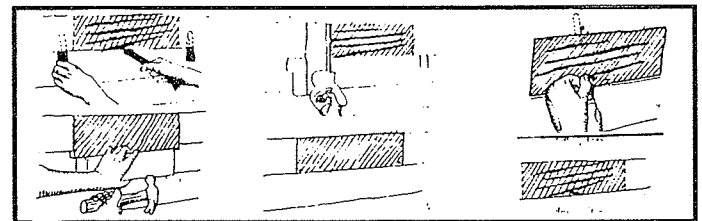
(4) cedar shingles or shakes. Whenever replacement is necessary, replacement with material closely resembling the original is highly recommended. All of these materials are available from lumber yards or can be special ordered.



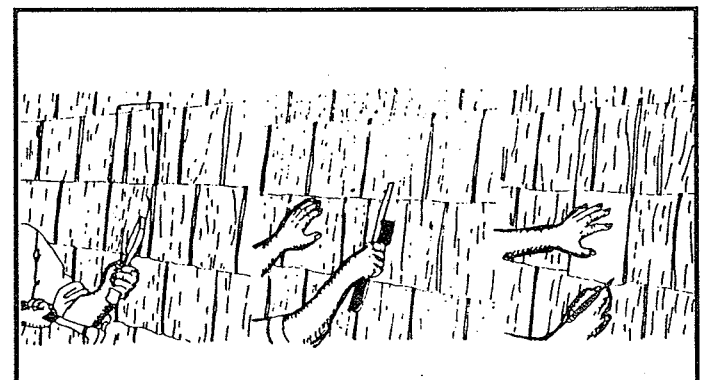
Don't remove siding unnecessarily. Often gluing or other spot repairs can prolong the life of damaged siding.

## Exterior detailing

Great care must be taken to duplicate the details of exterior walls. Window and door surrounds or trim must be exactly reproduced. Corners should have endboards or, in some cases, quoins. A drip molding, properly flashed, should be provided at the bottom of the wall. Similar molding or caps must be placed above doors and windows.



Consider replacing damaged pieces rather than wholesale replacement of siding: (1) determine degree of damage; (2) use wood wedges to pull damaged section away from wall; (3) use back saw to cut away damaged piece; (4) use hacksaw blade to cut nail; (5) push replacement siding into place using block, back with "spacers" for reinforcement; (6) nail in place, pre-drilling nail holes.



A similar technique can be used to replace individual shingles: (1) cut away damaged material; (2) cut nails; (3) push new piece into place measuring carefully for length.

Often an indication of termite presence is less dangerous than many assume. In most instances, buildings in the West Indies were built of imported heart pine, a material extremely resilient to termites -- even more resilient than modern treated materials. Often, too, termites have "completed" their work and are no longer present in the building.

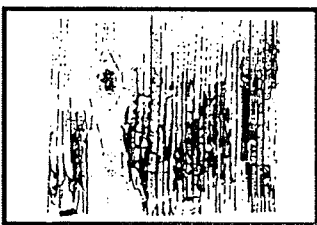
Also, since most historic wood buildings are stronger than they actually need to be, the loss of some materials may not really threaten the building's stability. Wood sheathing or wood interior walls often have nothing to support other than themselves and can simply be repaired with wood hardeners and epoxy and partial replacement, rather than being replaced entirely. A wood building often gains "character" through such repairs, and the walls need not all look new and perfect.

Tests and repairs for other types of wood-eating insects including carpenter ants and anobid beetles, should follow similar procedures.

Extreme caution must be taken when using pesticides or fungicides (discussed below). Other than in limited circumstances, they should be applied by professionals only, and care must be taken to ensure that chemically treated materials are not left exposed.

### Rotted Wood

In addition to termites, wood buildings are affected by rot. Again, the cause is moisture, coupled closely with poor ventilation. Rot will generally occur where: (1) water leaks in through the roof or leaky gutters or downspouts; (2) areas that are poorly ventilated, allowing a build-up of moisture, and (3) in cases when the wood is in contact with the ground or covered by vegetation. The main solution in each instance is to remove



Typical brown rot - generally remove, though consolidation and repair is possible if affected area is small enough.



Cross-grain cracking - indicative of more virulent "dry-rot." Always remove completely and discard.

the source of dampness and begin replacement of affected wood elements only after that point.

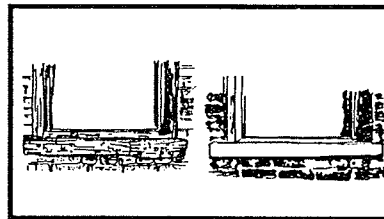
### Wood Replacement

Rotted wood takes a variety of forms and each type of rot has a particular character. For purposes of repairs to wood buildings, it is only important to remove that portion of the material

that is rotted. Unaffected pieces, or even portions of original pieces, should be retained wherever possible.

### Replacement Materials and Repairs

As stressed above, it is important that replacement materials resemble the originals, in terms of wood type, shape, and so on, as closely as possible. Also, only pressure-treated materials (wolmanized) with at least limited guarantee against termite infestation and/or rot should be accepted for replacement pieces. In some cases, naturally resistant woods, such as redwood, cedar, or mahogany may be substituted, though call for the use of such higher cost materials is unusual.



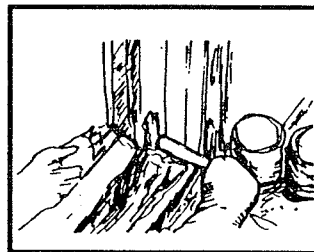
Wood components of masonry buildings often require replacement. Again, treated materials should be used.

Newer materials, particularly pine or fir, are often not so well-cured as original wood materials. Therefore they are more subject to warping or twisting. This is particularly true of materials treated with wolman salts (wolmanized), which are relatively "damp" at the time of purchase. It is important that good quality kiln-dried wood be used whenever possible. The extra cost is often worth it in the long run.

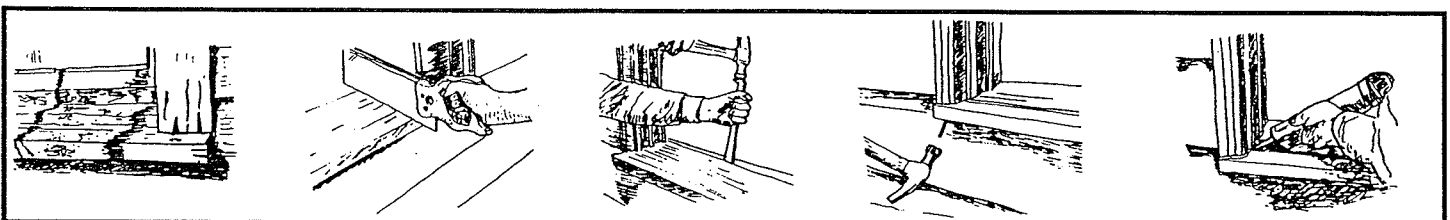
While replacement materials should match the original closely, materials more-or-less hidden from view, such as wall sheathing, floor decking, or roof sheathing may be of a less historic character. Pressure-treated plywood is often an excellent substitute for original wood plank sheathing. Similarly 2 by 4 and 2 by 6 inch pine, rather than traditional 4 by 4 members, may be used in roof-structures hidden from view, though more traditional treatments are always the most recommended.

### Epoxy Repairs

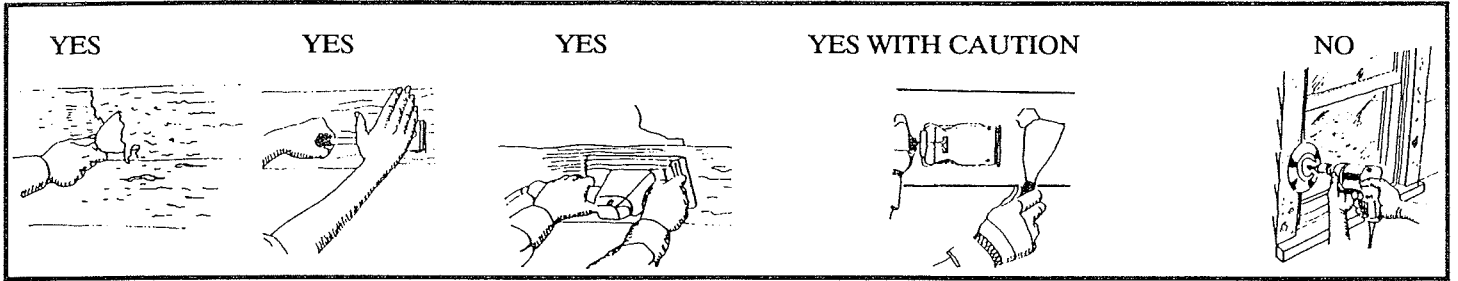
Before replacing wood materials entirely, the owner should consider other less dramatic repairs. Often a wood structural member can be spliced (a small piece inserted to replace damaged piece) or infilled with epoxy fillers. Epoxy fillers and impregnation (using drills to penetrate the wood) can be used to stabilize and reinforce damaged pieces. This procedure should be considered especially for elements such as window sills or exposed interior structural members, where the original shape or decorative treatment is itself significant.



Epoxy repairs - consisting of hardeners and fillers - can often be used to repair limited damage, such as hard to remove window sills or decorative details.



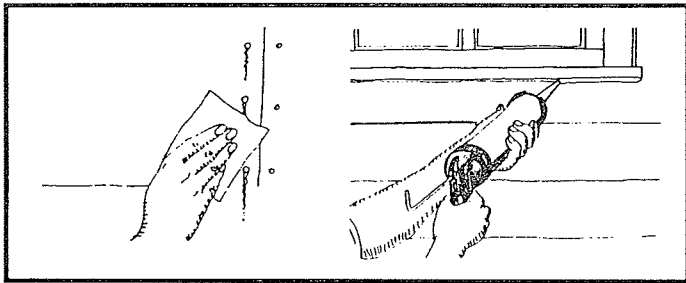
Rotted sills can be replaced in part or totally. Be certain to replace with treated materials. Caulk well and paint.



For paint preparation use (1) a putty knife (sometimes combined with chemical strippers); (2) a paint scraper; (3) an orbital sander; and (4) a heat plate (with caution). Do not use disk or belt sanders, both of which can mar wood surfaces.

### Painting

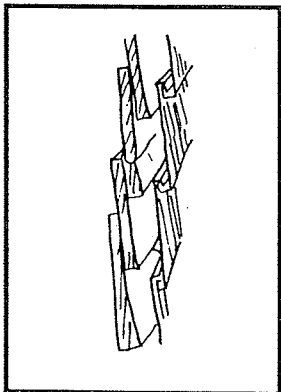
Wood surfaces should nearly always be painted as a protective measure. Paint repels moisture and helps keep the wood sound. It also inhibits warping or twisting. Always, a good quality primer should be used and, whenever possible, a good quality alkyd (oil-based) or acrylic latex paint applied. Light colored stains can also be used, particularly on shingled walls. (See the separate guideline on paints and materials).



Use the opportunity to set and putty nail holes and caulk. Use a high grade marine type caulk (toluene or butyl) for the best results.

### Artificial Materials

Vinyl or aluminum siding should never be used. These materials can be damaging to the wood understructure (encouraging rot) and do not hold up well over time. Also, metal and vinyl siding usually hides important details and alters the building's character.



Artificial siding over wood siding can mask more dangerous problems and trap additional moisture. Vinyl and aluminum siding are not permitted on historic structures in Virgin Island historic districts.

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